DOCUMENT RESUME

ED 304 737 CS 506 594

AUTHOR Smilowitz, Michael; And Others
TITLE It Don't Matter Like It Used To: The Relationship of Innovativeness with Sex, Ambiguity, Conflict Style, and Argumentativeness.
PUB DATE Feb 89
NOTE 35p.; Paper presented at the Annual Meeting of the Western Speech Communication Association (Spokane, WA, February 17-21, 1989).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Conflict Resolution; Elementary Secondary Education; *Innovation; Multiple Regression Analysis; Occupational Surveys; Organizational Communication; Persuasive Discourse; Questionnaires; Self Concept Measures; Self Evaluation (Individuals); *Sex Differences; Sex Role
IDENTIFIERS *Argumentativeness; Communication Behavior; *Conflict Management Style

ABSTRACT

A study examined how the factors of sex, tolerance for ambiguity, conflict management style, and argumentativeness relate to the prediction of innovativeness. Ninety-six K-12 public school teachers in a northeastern school district were surveyed using self-report measures for innovativeness, ambiguity tolerance, conflict management style, and argumentativeness. Multiple regression analysis indicated that the men and women in this study did not differ on the innovativeness scale, were similar in their tolerance for ambiguity, regarded solution orientation conflict management styles to be negatively related to innovativeness, but were likely to engage in different types of communicative behaviors when engaged in innovation. However, these findings may represent how men and women believe they should behave according to sex role expectations (since it examined self-perceptions), or how they define communicative behaviors, rather than actual communication behaviors. (Three tables of data are included, and 99 references are attached.) (SR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED304737

It don't matter like it used to: The relationship of innovativeness with sex, ambiguity, conflict style and argumentativeness

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Michael Smilowitz
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Michael Smilowitz

Anne M. Nicotera

Kimberlee A. Duran

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

School of Interpersonal Communication

Ohio University

Athens, Ohio 45701

(614) 593-4820

Running Head: Relationship of sex with innovativeness

CS506594

Abstract

The nature of sex role expectations is continuing to change. Nevertheless, the presumption of traditional sex roles is so strong that traditional roles continue to influence communicative behavior. This study examines the impact of sex on organization members' innovativeness. Ninety-six K-12 public school teachers were surveyed using measures for innovativeness, ambiguity tolerance, conflict management style, and argumentativeness. Multiple regression analysis indicated men and women are similar in their perceptions of their innovativeness, but sex differences account for different perceptions of their communicative actions.

It don't matter like it used to: The relationship of innovativeness with sex, ambiguity, conflict style and argumentativeness

The importance of stereotypical sex roles and their potential to bias individuals' self-perceptions remains a crucial consideration to any research with subjects of both sexes. The results of self-report measures must be examined to evaluate the biases that may result from expectations to conform to stereotypical conventions (Furnham, 1986). Although the differences in sex role expectations appear to be changing, there is not yet enough evidence to reject the impact of traditional sex roles conventions on people's communicative behaviors.

Research into organization behavior is one place where the impact of traditional sex role conventions remains important. Of particular importance to this study is the high value organizations place on innovation. The popularity of Peters and Waterman's (1982) In Search of Excellence and Kanter's Changemasters (1983) is evidence of the current emphasis. With the number of corporate women on the increase, it is important to determine whether men and women perceive their own levels of innovativeness differently. Do traditional sex roles pressure men and women to think of their innovativeness and associated communication activities differently, or is this an area where social expectations have diminished? The study described in this paper is intended to provide some answers to these questions.

Review of Literature

Sex Role Expectations

Pressures to conform to social expectations are expected to occur because the development of a self-concept is linked to both self-esteem and social conventions. Self-esteem is a function of how individuals feel about their own self-images -- whether positive or negative. Emotional reactions to the self-image are dependent on knowledge of rules for appropriate action gained through the social learning process. Together, self-image and self-esteem comprise the self-concept (Mead, 1934).

Sex is an important part of the self-concept. Kuhn (1960) found that individuals consistently listed their sex as a primary self-identifier. Sex identification is important as individuals are expected to learn and practice the communicative behaviors appropriate for their sex (Gross, 1978; Rubin, 1983). Females, it is believed, are taught to be relational while males are encouraged to be independent (Rubin, 1983). Rubin accounts for these stereotypical distinctions by arguing that mothers allow their daughters to identify with them in order for daughters learn the female identity. To ensure a male identity, mothers push their sons away. The son learns that to be male is to not be female.

Internalization of societal expectations through role-taking is a necessary part of the socialization process (Mead, 1934). As these expectations are internalized, individuals strive to live up to their learned roles. As the self-image is actualized, self-esteem improves (Feshbach & Weiner, 1986; Maslow, 1962; Pearson, 1985). Wilmont (1980) asserts that even when people do not behave according to social expectations,

they nevertheless bias their self-perceptions so that the self-image is consistent with social expectations.

The internalization of societal sex-role expectations results in the differences males and females report about their perceptions and interpretations. Gilligan (1982) provides a basis to describe the expected differences between males and females. Gilligan postulates sex differences to result in different modes of thought in four areas: (1) underlying principles upon which action is based -- males base action on a principle of separateness, females on a principle of relatedness; (2) bases for decisions -- males base decisions on fairness according to "rules of the game," while females base decisions on concern for others; (3) perceptions of moral dilemmas -- males perceive dilemmas in terms of "competing rights adjudicated by rules," women in terms of competing responsibilities to others; (4) self-concepts -- males perceive themselves as apart from others, and females perceive others to be an important part of self-concept.

The way individuals interpret themselves and their roles in society is closely tied to their biological sex. To maintain self-esteem, individuals internalize those characteristics that are valued by their culture. American society at large values the independent male and the relational female (Rubin, 1983). Such expectations seem to have extended beyond interpersonal relationships into information processing capability.

Sex Roles and Innovativeness

The literature on sex roles provides ample justification to expect men and women to differ in innovativeness and the associated communicative behaviors. In general, the

literature suggests that males have more of the dispositions typically associated with innovativeness.

Cognitive styles affect innovativeness. Males self-report a tendency to seek out new structures and patterns, but females report a tendency to search for relatedness among existing patterns (Weaver, 1972). Males regard themselves highly tolerant of ambiguity (Bhattacharya & Bhardwaj, 1983).

As the introduction of an innovation often involves gaining the approval of others, the innovator's assertiveness if often important. Hoppe (1979) found that males are generally more assertive than females. Relevant concepts such as verbal aggressiveness and argumentiveness are viewed as male appropriate communicative behaviors while nonassertiveness is considered female appropriate (Infante, 1982). Societal definitions of male and female communication behaviors are so ingrained that individuals who are uninformed of the sex of a communicator will assume that aggressive communicators are male and nonassertive communicators are female (Hess, Bridgewater, Bornstein, & Sweeney, 1980). Males have also been reported to be more prone to risk-taking behavior than females (e.g., Bauer & Turner, 1974; Maier & Burke, 1967; Minton & Miller, 1970).

Strategies for coping with conflict are generally thought to differ according to sex. Females are expected to use more socially accepted conflict resolution behaviors such as reasoning, understanding, and negotiation. Males, however, are expected to resort to anti-social strategies such as verbal and physical aggression, regression (internalizing feeling or seeking help), revenge, and confrontation (Jourard, 1971; Roloff, 1980). The different coping mechanisms may be related to findings that males tend to be

competitive as females tend to be cooperative (Benton, 1973; Levanthal & Lane, 1970).

Although the development of the self-concept depends heavily on sex-role expectations, and there is some tangential evidence to expect sex to have some impact on innovativeness, there remains no direct examination of the relationship between sex and innovation. Four particular instruments make such an examination possible. The Innovativeness Scale (Hurt, Joseph, & Cook, 1982); the Organizational Communication Conflict Instrument (OCCI) (Putnam & Wilson, 1982), Norton's (1975) Measurement of Ambiguity Tolerance (MAT-50), and Infante and Rancer's (1982) Argumentativeness Scale are measures that can determine the relationships of communication dispositions which are relevant to innovativeness.

Innovativeness

According to Hurt, Joseph, and Cook (1977), the research of innovativeness in the 1960s and '70s was inconsistent in its conceptualization. Some defined innovativeness as synonymous with risk-taking (Cancion, 1967; Donnelly & Etzel, 1973; Popielarz, 1967). Rogers and Shoemaker (1971) conceptualized innovativeness as the early adoption of innovations relative to other members of the organization or social system. Feaster (1968) conceptualized innovativeness as a willingness to recognize and internalize the need for change. These approaches were unsatisfactory for they presented little more than tautologies and did so with inconsistent conceptualizations of risk-taking. Definitions of innovativeness turned away from regarding it as an individual characteristic to emphasize that innovativeness can only be explained by characteristics of the particular innovation (e.g., Fliegal & Kivlin, 1966; Katz, 1961). Hurt, Joseph,

& Cook (1977) reconciled the differences by bringing the individual, the social system, and the innovation together. They assumed that when an innovation is valued by the social system individuals will differ in their level of willingness to abandon traditional behaviors and adopt some change. Hurt, Joseph, and Cook (1977) then conceptualized innovativeness as "a normally distributed, underlying personality construct, which may be interpreted as a willingness to change" (p. 59). From this foundation, they developed a 20-item Likert-type scale designed to measure a general willingness to accept and adopt change.

The Hurt, Joseph, & Cook Innovativeness Scale has been widely applied in research (Celuch & Evans, 1987; Evans, 1985; Fremouw & Scott, 1979; Goldsmith, 1986a, 1986b, 1987; Goldsmith & Nugent, 1984; Payne & Beatty, 1982; Richmond, McCroskey, & Davis, 1982). These researchers attempted to link innovativeness to such factors as information processing confidence, communication apprehension, self-monitoring, cognitive complexity, cognitive integration, and organizational satisfaction. However, not one of these investigations considered the possibility of sex differences on the Innovativeness Scale.

Ambiguity Tolerance

As innovation involves change, and change is ambiguous, individual tolerances for ambiguity should help explain the disposition for innovativeness. The personality construct intolerance of ambiguity was introduced by Frenkel-Brunswick (1948, 1949). Frenkel-Brunswick (1949) defined intolerance of ambiguity as a tendency to resort to black-white solutions, to arrive at premature closure as to valuative aspects, often at the

neglect of reality, and to seek for unqualified and unambiguous overall acceptance and rejection of other people (p. 115).

According to their definition, a person who "is reluctant to think in terms of probabilities and prefers to escape into whatever seems concrete" (Norton, 1975) is intolerant of ambiguity. Throughout the 1950s the concept was popular among researchers interested in authoritarian personality, ethnocentrism, and perception (e.g., Block & Block, 1950; Davids, 1956; Davids & Eriksen, 1957; Jones, 1956; Martin, 1954; McCandless & Holloway, 1955; O'Conner, 1952; O'Neil & Levinson, 1954; Siegel, 1954; Steiner, 1954; and Taft, 1956).

Over the years, a variety of scales were developed to measure ambiguity tolerance. Norton (1975), in developing the MAT-50, reported that previous paper-and-pencil tests (including Budner, 1962; MacDonald, 1970; Martin & Westie, 1959; and Rydell & Rosen, 1966) were "flawed by low internal reliability and the absence of adequate validity evidence" (Norton, 1975, p. 607). Norton (1975) developed an the MAT-50 instrument that demonstrated high internal reliability, high test-retest reliability, adequate content validity, strong evidence for criteria-related validity, and good construct validity.

The MAT-50 has been widely used in research (e.g., Ashford & Cummings, 1985; Comadena, 1984; Falbo & Belk, 1985; Heimovics, 1984; Putnam, 1979; Rotter & O'Connell, 1982). Concepts which have been associated with ambiguity tolerance in these studies include information-seeking, communication apprehension, productivity, self righteousness, trust, influence, and work procedure preferences in small groups.

Using the MAT-50, Rotter and O'Connell examined biological and psychological sex and found androgynous females to be less tolerant of ambiguity than nonandrogynous females. This difference was not found for males. Male and female androgynes were found to be more tolerant of ambiguity that sex-typed individuals. In addition, androgynes were cognitively more complex than undifferentiated individuals, and cognitive complexity and intolerance of ambiguity were negatively correlated. Even with scales other than the MAT-50, both biological and psychological sex have been found to affect ambiguity tolerance (e.g., Bhattacharya & Bhardwaj, 1983; Heilbrun, 1984). Although ample evidence exists to warrant the examination of sex differences on the MAT-50, only Rotter and O'Connell have done so.

Conflict Management Style

The acceptance and implementation of an innovation necessarily involves conflict management as changes often affect organizational members' vested interests. Putnam and Wilson (1982) point out how the early research viewed conflict as a negative, destructive force to be avoided at all costs. From the 1960s onward, however, conflict literature reflected a different orientation. Conflict began to be regarded as a positive, healthy characteristic. Conflict was seen as important to intragroup cohesiveness (Coser 1956), maintaining a power balance among opponents (Blake, Shepard, & Mouton 1964), facilitating organizational change (Litterer 1966), generating creative problem-solving (Hall, 1969), being functional and necessary to group processes (Ruben, 1976; Mathur & Sayeed, 1983), being useful to organizational and group goals (Mathur & Sayeed, 1983), and a means for healthy change and growth (Darling & Brownlee, 1984). Successful managers exhibit more conflict management behaviors than unsuccessful

managers (Luthans, Rosenkrantz, & Hennessy, 1985). In addition, organizations of various size and function report conflict management training to be of considerable importance to their employees (Shockley-Zalabek, 1984).

Many researchers have attempted to identify effective conflict management strategies (Burke, 1970; Deutsch, 1973; Kilmann & Thomas, 1977; Renwick, 1977). Blake and Mouton (1964) developed a category scheme for the management of organizational conflict. Five styles were described: Forcing -- linked to competition and power, with little respect for the needs of others; Confronting -- a process of integrating and collaborating, directly facing the problem and assessing possible solutions; Smoothing -- accommodating behaviors which aim to hide or ignore the conflict; Avoiding -- physical or psychological withdrawal; and Compromise -- simple solutions with each party acquiescing the original demand (Putnam & Wilson, 1982).

Putnam and Wilson (1982) developed the Organizational Communication Conflict Instrument (OCCI) to assess an individual's conflict management style. The OCCI is based on three basic assumptions. First, strategic or planned interaction is an integral part of conflict management. Second, the OCCI aims at disagreement and differences of opinion, not misunderstanding. Finally, the decision to use a particular strategy is largely governed by situational constraints, such as the nature of the conflict, the participants' relationship, organizational structure, and environment. The OCCI was "designed to assess an employee's use of communicative strategies across conflict situations" (Putnam & Wilson, 1982, p. 633-634). A factor analysis revealed three factors from Blake and Mouton's (1964) five styles: nonconfrontation, smoothing and avoiding; solution-orientation, confrontation and compromise; control, forcing. Validity

tests supported the construct and predictive validity of the OCCI (Putnam & Wilson, 1982).

Sex differences in the perception of conflict and conflict management style have been established (e.g., Renwick, 1977; Zammuto, London, & Rowland, 1979). In superior-subordinate conflict, the relationship between commitment and conflict strategy appears to be influenced by the sexual composition of the dyad. Males with female superiors use smoothing, compromise, and confrontation when they are committed to the position, while females with female superiors avoid these strategies when committed (Zammuto, London, & Rowland, 1979). Renwick (1977) found no difference in subordinates' descriptions of themselves, but significant difference in male and female descriptions of superiors. Females describe their superiors as "more likely to withdraw from conflicts, smooth over differences, and compromise on issues of disagreement than did their male counterparts" (p. 412).

It therefore seems important to investigate specific sex differences on the OCCI. Of those researchers who have applied the OCCI (for example, Monge, Farace, Eisenberg, Miller, & White, 1984; Wall & Nolan, 1987), however, none have reported an examination of sex differences.

Argumentativeness

An innovation is often a controversial issue. For an innovation to disseminate throughout an organization, individuals must discuss the change. If the change is controversial, individuals' dispositions towards argument will be relevant to the discussion processes.

Infante and Rancer (1982) conceptualize argumentativeness as an approach-avoidance conflict, where the general trait (ARG_g) is the interaction of the tendency to approach argument (ARG_{ap}) and the tendency to avoid argument (ARG_{av}). The relationship is expressed as:

$$ARG_g = ARG_{ap} - ARG_{av}.$$

Infante and Rancer (1982) developed a 20-item Likert-type scale to measure trait argumentativeness. The scale consists of ten items measuring the tendency to approach argument and ten items measuring the tendency to avoid argument.

Rancer, Baukus, and Infante (1985) found that individuals who believe argument is positive obtain higher ARG_g scores than their counterparts who view argument as negative. In their study, highly argumentative students believed that argument is a valuable enjoyable learning experience. Low argumentative students viewed argument as a hostile interaction that increases conflict. In addition, highly argumentative individuals were more motivated to argue when they expected to encounter a person who also enjoys arguing (Rancer & Infante, 1985).

Infante (1981) discovered seven dimensions of argumentative behavior: flexibility, interest, verbosity, expertise, dynamism, willingness to argue, and argumentative skill. Within Infante's sample of speech communication students, high argumentativeness scores were correlated with being male, being early in family birth order, and having had argumentation and/or debate training. Males are higher in argumentativeness than females (e.g., Infante, 1982), but teaching women to be argumentative may enhance their credibility (Infante, 1985). Instrumental/ masculine individuals are significantly higher on trait argumentativeness than expressive/feminine, androgynous, or undifferentiated

individuals (Rancer & Dierks-Stewart, 1984, 1985). Nicotera (1988) found that females and males are differentially susceptible to a social desirability effect on the scale, with males perceiving argumentativeness as more socially desirable. Males consistently score more highly on the argumentativeness scale than females (e.g., Bonaguro & Pearson, 1986; Infante, 1981, 1982, 1987; Infante & Rancer, 1982; Infante, Trebing, Shepard, & Seeds, 1982; Nicotera & Smilowitz, 1988). Bonaguro and Pearson (1986) suggest that sex differences on the argumentativeness scale may be explained by differing perceptions of arguing and argumentativeness. Specifically, argumentativeness seems to be socially associated with male behavior.

Infante (1987) states that "according to the cultural sex-role expectations model, arguing...is compatible with expectations for male behavior but incompatible with expectations for female behavior" (p. 175). Earlier, Infante (1982) had also suggested that sex role expectations lead to sex differences on the argumentativeness scale. Respondents of the argumentativeness scale may be influenced by such social expectations and may bias their self-perceptions in the direction of societal expectations.

In sum, the literature suggests that self-perceptions of innovativeness can be expected to correlate with ambiguity tolerance, and the communication constructs of conflict management styles and argumentativeness. Moreover, the identified predictor variables can be expected to vary according to sex. In the absence of any direct examination of these factors, the following study was designed to answer the question:

Q_1 How do the factors of sex, ambiguity for tolerance, conflict management style, and argumentiveness relate to the prediction of innovativeness?

Method

Subjects

164 questionnaires were distributed to K-12 teachers of a northeastern school district. Teachers were selected because of the value educational organizations place on innovativeness. A second reason for selecting teachers was that the teaching task allows sufficient independence for innovation. 96 questionnaires were returned, for a response rate of 59 percent. 32 males and 64 females responded, with an average age of 40.7 years. The average length of time these individuals had worked for their district was 14.2 years.

Questionnaires

Subjects were administered four instruments: the Innovativeness Scale (Hurt, Joseph, & Cook, 1977), the MAT-50 (Norton, 1975), the Argumentativeness Scale (Infante & Rancer, 1982), and the Organizational Communication Conflict Instrument (Putnam & Wilson, 1982). Standardized instructions were provided. To control for possible ordering effects, two versions of the questionnaire were distributed. The first version began with the Argumentativeness Scale, followed by the MAT-50, the OCCI, and the Innovativeness Scale. The second version was the reverse order.

Data Analysis

To determine the relative contribution of sex and the predictor variables of tolerance for ambiguity, problem solving skills and argumentativeness, multiple regression analysis was selected. A forced entry regression model was appropriate as the zero-order correlations were sufficiently low to minimize multicolinearity problems (all below .50), cell frequencies were unequal, and there was both ordinal and continuous

data (Kerlinger and Pedhazur, 1973, Kachigan, 1982). Following convention, the demographic variable of sex was first entered, then the predictor scales were block entered in order of the defending zero-order correlations. Finally, to determine interaction effects, each of the predictor measures were multiplied with the dummy coded vector of sex, and block entered, again in order of descending zero-order correlations.

Results

Insert Tables 1,2,3 about here

As Table 1 indicates, males and females do not differ significantly on their means for the innovativeness measure. Examination of the zero order correlation matrix (Table 2), and the results of the regression analysis (Table 3) indicate that sex, by itself, does not account for the variance of the innovativeness measure ($r = -.06$, $p > .05$, $R = .05$, $F > .05$).

The scale measures do account for 32% of the variance of the innovativeness measure ($R = .57$, $F < .001$). Only two measures, however, have significant beta weights: Ambiguity Tolerance (beta = .32, $t = 2.95$, $p < .01$) and Solution Orientation (beta = -.28, $t = -2.83$, $p < .01$). Putman's and Wilson's measures of the other two styles, control and non-confrontation, and the argumentativeness measure contributed to the explained variance, but not significantly.

Examination of the interaction effects, indicate that sex combined with the scale measures better accounts for the variance of the innovativeness measure. The interaction factors of sex with ambiguity, and sex with non-confrontive management style did not meet the minimum entry tolerance of F = .01. Sex with controlling conflict management style, solution orientation, and argumentativeness comprised the block. By entering the interaction effects block, the resulting regression equation accounted for nearly 38% of the variance of the innovativeness measure. However, only sex with argumentatives had a significant beta weight (beta = -2.439, t = -2.44, $p < .05$). The negative beta indicates that as males perceive themselves as more argumentative, they also have higher innovativeness scores, whereas as females perceive themselves as more argumentative, their innovativeness score decreases.

Discussion

The measures used in this study better explain innovativeness when the effects of sex are included in the analysis. Men and women do not appear to differ from one another on the innovativeness measure. However, the significant increase in the explained variance that results from the interaction effects indicates that men and women perceive themselves to differ in those communication dispositions that are relevant to innovativeness.

For both sexes, tolerance for ambiguity appears important in predicting innovativeness. This result is consistent with the expectation that as innovation involves change, and change increases equivocality, individuals who are more tolerant of ambiguity are more disposed towards innovation.

Also for both sexes, solution orientation is significant in predicting innovativeness, *but not in the direction* that Putman and Wilson's (1982) arguments would suggest. Putman and Wilson concluded that solution orientation is the most effective style for accomplishing progress since it is the conflict management style that best removes barriers. The results of this study, however, suggest that the communication behaviors identified by the solution orientation scale may, in fact, impede innovativeness. Close examination of the items that comprise the solution orientation scale reveals that its items focus on resolving differences by compromising existing points of view. To meet the opposition halfway, to give in, to integrate existing arguments, and to combine a variety of viewpoints are conservative acts that employ aspects of the status quo to provide for resolution of disagreement. Although such acts may remove the barriers that impede progress, compromise involves combining existing possibilities at the expense of determining new, innovative directions. In contrast, items of the Innovativeness Scale such as trying out new ideas, seeking out challenges, and preferring to think of oneself as creative and original are indicative of deviation and invite disagreement.

The effect of sex is most important in the relationship between innovativeness and argumentativeness. Comparison of the means for men and women on the argumentativeness scales reveals that the women in this study regarded themselves as less argumentative than the men, although the difference was not statistically significant. Argumentativeness by itself did not significantly contribute to the explained variance. Adjusting for the differences between men and women, however, results in argumentativeness significantly increasing the explained variance.

This last finding affirms the position that at least some traditional sex role expectations influence the communicative dispositions of men and women. The disposition for argumentativeness is, as the previous research has reported, linked to cultural expectations for appropriate male and female behavior. As a result, males are more likely to identify arguing as a necessary component of innovation, whereas females are more likely to shun arguing when involved in innovation.

Conclusions

It must be emphasized that men and women of this study did not differ on the innovativeness scale. Men and women are equally inclined to engage in innovativeness. The respondents were also similar in their tolerance for ambiguity, a finding that contradicts earlier research (Bhattacharya & Bhardwaj, 1983). Also, both sexes regarded solution orientation conflict management styles to be negatively related to innovativeness. Decisions about staffing for innovation should therefore be independent of stereotypical sex role expectations.

What this study does indicate is that men and women are likely to engage in different types of communicative behaviors when they are engaged in innovation. In so far as conventional sex-roles expect men to be more aggressive in their speech, men may be more willing to engage directly in argument when discussing an innovation. As women are expected to be more concerned about relationships than issues, they may be less willing to argue when engaged in innovation.

There is, however, an important qualification that must be considered. This study examined self-perceptions. The findings may therefore represent how men and women

believe they should behave according to sex role expectations, but do not necessarily represent their actual behaviors. That is, men and women may not differ in their actual argumentative behavior when they find themselves discussing innovations. What may differ is how men and women define communicative behaviors. For example, several female respondents wrote comments on their questionnaires such as: "I don't argue - I discuss!" Depending on how arguing is defined, such comments are themselves arguments.

Subsequent research should therefore examine the difference between men and women's actual communication when involved in innovation. The results of this study suggest that in so far as self-perceptions influence behavioral choices, men and women can be expected to communicate differently about innovation in accordance with sex role expectations. However, whether such differences are typical of the communication involved in innovation, and whether the differences have any impact on the innovation process, remain questions for empirical examination. Answers to these questions will help organizations to understand better the processes that engender innovation.

References

Ashford, S. J., & Cummings, L. L. (1985). Proactive feedback seeking: The instrumental use of the information environment. Journal of Occupational Psychology, 50, 67-79.

Bauer, R., & Turner, J. H. (1974). Betting behavior in sexually homogeneous and heterogeneous groups. Psychological Reports, 34, 251-258.

Benton, A. H. (1973). Reactions to demands to win from an opposite sex opponent. Journal of Personality, 41, 430-442.

Bhattacharya, R. & Bhardwaj, G. (1983). Ecology and sex as determinants of motivation and personality. Psychologia: An International Journal of Psychology in the Orient, 26, 258-262.

Blake, R. R., & Mouton, J. S. (1964). The managerial grid. Houston: Gulf.

Blake, R. R., Shepard, H., & Mouton, J. S. (1964). Managing intergroup conflict in industry. Houston: Gulf.

Block, J., & Block, J. (1950). Intolerance of ambiguity and ethnocentrism. Journal of Personality, 19, 303-311.

Bonaguro, E. W., & Pearson, J. C. (1986, November). The relationship between communicator style, argumentativeness, and gender. Paper presented at the annual convention of the Speech Communication Association, Chicago, IL.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. Journal of Personality, 30, 29-50.

Burke, R. J. (1970). Methods of resolving superior-subordinate conflict: The constructive use of subordinate differences and disagreements. Organizational Behavior and Human Performance, 5, 393-411.

Cancion, F. (1967). Stratification and risk taking: A theory tested on agricultural innovations. American Sociological Review, 32, 912-927.

Celuch, K., & Evans, R. H. (1987). Innovativeness and confidence in information processing: Revisited. Psychological Reports, 60, 301-302.

Comadena, M. E. (1984). Brainstorming groups: Ambiguity tolerance, communication apprehension, task attraction, and individual productivity. Small Group Behavior, 15, 251-264.

Coser, L. A. (1956). The functions of social conflict. New York: MacMillan.

Darling, J. R., & Brownlee, L. J. (1984). Conflict management in the academic institution. Texas Tech Journal of Education, 11, 243-257.

Davids, A. (1968). Cognitive styles in potential scientists and in underachieving high school students. Journal of Special Education, 2, 197-201.

Davids, A. & Eriksen, H. J. (1957). Some social and cultural factors determining relations between authoritarianism and measures of neuroticism. Journal of Consulting Psychology, 21, 155-159.

Deutsch, M. (1973). The resolution of conflict: Constructive and destructive powers. New Haven. CT: Yale University Press.

Donnelly, J. H., & Etzel, M. T. (1973). Degrees of product newness and early trial. Journal of Marketing Research, 10, 295-300.

Evans, R. H. (1985). Innovativeness and information processing confidence. Psychological Reports, 56, 557-558.

Falbo, T., & Belk, S. S. (1985). A short scale to measure self righteousness. Journal of Personality Assessment, 49, 172-177.

Feaster, J. G. (1968). Measurement and determinants of innovativeness among primitive agriculturalists. Rural Sociology, 33, 339-348.

Feshbach, S. & Weiner, B. (1986). Personality (2nd ed.). Lexington, MA: D. C. Heath & Co.

Fliegal, F. C., & Kivlin, J. E. (1966). Attributes of innovations as factors in diffusion. American Journal of Sociology, 72, 235-248.

Fremouw, W. J., & Scott, M. D. (1979). Cognitive restructuring: An alternative method for the treatment of communication apprehension. Communication Education, 28, 129-133.

Frenkel-Brunswick, E. (1948). Tolerance toward ambiguity as a personality variable. American Psychologist, 3, 268.

Frenkel-Brunswick, E. (1949). Intolerance of ambiguity as an emotional and perceptual variable. Journal of Personality, 18, 108-143.

Furnham, A. (1986). Response bias, social desirability and dissimulation. Personality and Individual Difference, 7, 385-400.

Gilligan, C. (1982). In a different voice: Psychological theory and women's development. Cambridge, MA: Harvard University Press.

Goldsmith, R. E. (1986a). Convergent validity of four innovativeness scales. Educational and Psychological Measurement, 46, 81-87.

Goldsmith, R. E. (1986b). Personality and uninformed response error. Journal of Social Psychology, 126, 37-45.

Goldsmith, R. E. (1987). Self-monitoring and innovativeness. Psychological Reports, 60, 1017-1018.

Goldsmith, R. E., & Nugent, N. (1984). Innovativeness and cognitive complexity: A second look. Psychological Reports, 55, 431-438

Gross, A. (1978). The male role and heterosexual behavior. The Journal of Social Issues, 34, 87-107.

Hall, J. (1969). Conflict management survey: A survey of one's characteristic reaction to and handing of conflicts between himself and others. Monroe, TX: Teleometrics International.

Heilbrun, A. B. (1984). Sex-based models of androgyny: A further cognitive elaboration of competence differences. Journal of Personality and Social Psychology, 46, 216-229.

Heimovics, R. D. (1984). Trust and influence in an ambiguous group setting. Small Group Behavior, 15, 545-552.

Hess, E. P., Bridgewater, C. A., Bornstein, P. H., & Sweeney, T. M. (1980). Situational determinants in the perception of assertiveness: Gender-related influences. Behavior Therapy, 11, 49-57.

Hoppe, C. M. (1979). Interpersonal aggression as a function of subject's sex, subject's sex role identifications, and degree of provocation. Journal of Personality, 47, 315-329.

Hurt, H. T., Joseph, K., & Cook, C. D. (1977). Scales for the measurement of innovativeness. Human Communication Research, 4, 58-65.

Infante, D. A. (1981). Trait argumentativeness as a predictor of communicative behavior in situations requiring argument. Central States Speech Journal, 32, 265-72.

Infante, D. A. (1982). The argumentative student in the speech communication classroom: An investigation and implications. Communication Education, 31, 141-148.

Infante, D. A. (1985). Inducing women to be more argumentative: Source credibility effects. Journal of Applied Communication Research, 13, 33-44.

Infante, D. A. (1987). Aggressiveness. In J. C. McCroskey & J. A. Daly (Eds.), Personality and interpersonal communication. Newbury Park, CA: Sage Publications.

Infante, D. A., & Rancer, A. S. (1982). A conceptualization and measure of argumentativeness. Journal of Personality Assessment, 46, 72-80.

Infante, D. A., Trebing, J. D., Shepherd, P. E., & Seeds, D. E. (1984). The relationship of argumentativeness to verbal aggression. Southern Speech Communication Journal, 50, 67-77.

Jones, M. B. (1956). Authoritarianism and intolerance of fluctuation. Journal of Abnormal Social Psychology, 50, 125-126.

Jourard, S. M. (1971). Self-disclosure: An experimental analysis of the transparent self. New York: John Wiley.

Kachigan, S. K. (1982). Multivariate statistical analysis. New York: Radius Press.

Kanter, R. M. The Change Masters: Innovation for Productivity in the American Corporation. New York: Simon and Schuster.

Katz, E. (1961). The social itinerary of technical change: Two studies on diffusion of an innovation. Human Organization, 20, 70-82.

Kerlinger, F. N., & Pedhazur, E. J. (1982). Computer mediated communication systems. New York: Academic Press.

Kilmann, R. W., & Thomas, K. W. (1977). Developing a forced-choice measure of conflict-handling behavior: The mode instrument. Educational and Psychological Measurement, 37, 309-325.

Kuhn, M. H. (1960). Self-attitudes by age, sex, and professional training. Sociological Quarterly, 1, 39-55.

Levanthal, G. S., & Lane, D. W. (1970). Sex, age, and equity behavior. Journal of Personality and Social Psychology, 15, 312-316.

Litterer, J. A. (1966). Conflict in organizations: A re-examination. Academy of Management Journal, 9, 178-186.

Luthans, F., Rosenkrantz, S. A, & Hennessey, H. W. (1985). What do successful mangers really do? An observation study of managerial activities. Journal of Applied Behavioral Science, 21, 255-270.

MacDonald, A.P. (1970). Revised scale for ambiguity tolerance: Reliability and validity. Psychological Reports, 25, 791-798.

Maier, N. R. F., & Burke, R. J. (1967). Response availability as a factor in the problem-solving performance of males and females. Journal of \personality and Social Psychology, 5, 304-310.

Martin, B. (1954). Intolerance of ambiguity in interpersonal and perceptual behavior. Journal of Personality, 22, 494-503.

Martin, J. G., & Westie, F. R. (1959). The tolerant personality. American Sociological Review, 24, 521-528.

Maslow, A. H. (1962). Toward a Psychology of Being. Princeton, NJ: D. VanNostrand Co.

Mathur, H. B., & Sayeed, O. B. (1983). Conflict management in organizations: Development of a model. Indian Journal of Social Work, 44, 175-185.

McCandless, B. R., & Holloway, H. D. (1955). Race prejudice and intolerance of ambiguity in children. Journal of Abnormal Social Psychology, 51, 692-693.

Mead, G. H. (1934). Mind, self and, society from the viewpoint of a social behaviorist. Chicago: Chicago University Press.

Minton, H. L., & Miller, A. G. (1970). Group risk-taking and internal-external control of group members. Psychological Reports, 26, 431-436.

Monge, P. R., Farace, R. V., Eisenberg, E. M., Miller, K. I., & White, L. L. (1984). The process of studying process in organizational communication. Journal of Communication, 34, 22-43.

Nicotera, A. M. (1988). Argumentativeness and Social Desirability: Investigation of an Instrument. Unpublished manuscript, Ohio University, Athens.

Nicotera, A. M., & Smilowitz, M. (1988, November). Communication dispositions contributing to perceptions of innovativeness: "I don't mind not knowing what we're doing new, as long as we do it without arguing about it." Paper to be

presented at the annual convention of the Speech Communication Association, New Orleans, LA.

Norton, R. W. (1975). Measurement of ambiguity tolerance. Journal of Personality Assessment, 39, 607-619.

O'Conner, P. (1952). Ethnocentrism, "intolerance of ambiguity," and abstract reasoning ability. Journal of Abnormal Social Psychology, 47, 526-530.

O'Neil, W. M., & Levinson, D. J. (1954). A factorial exploration of authoritarianism and some of its ideological concomitants. Journal of Personality, 22, 449-463.

Payne, S. K., & Beatty, M. J. (1982). Innovativeness and cognitive complexity. Psychological Reports, 51, 85-86.

Pearson, J. C. (1985). Gender and communication. Dubuque, IO: Wm. C. Brown.

Peters, T. J., & Waterman, R. H. (1982). In search of excellence. New York: Warner Books.

Popielarz, D. T. (1967). An exploration of perceived risk and willingness to try new products. Journal of Marketing Research, 4, 368-372.

Putnam, L. L. (1979). Preference for procedural order in task-oriented small groups. Communication Monographs, 46, 193-218.

Putnam, L. L., & Wilson, C. E. (1982). Communicative strategies in organizational conflicts: Reliability and validity of a measurement scale. In M. Burgoon (Ed.), Communication Yearbook 6. Beverly Hills, CA: Sage Publications.

Rancer, A. S., & Baukus, R. A. (1984, October). Discriminating males and females an belief structures about arguing. Paper presented at the annual Communication, Language, and Gender Conference, Oxford, OH.

Rancer, A. S., Baukus, R. A., & Infante, D. A. (1985). Relations between argumentativeness and belief structures about arguing. Communication Education, 34, 37-47.

Rancer, A. S., & Dierks-Stewart, K. J. (1984, March). An examination of biological and physiological gender differences in trait argumentativeness. Paper presented at the annual convention of the Eastern Communication Association, Philadelphia, PA.

Rancer, A. S., & Dierks-Stewart, K. J. (1985). The influence of sex and sex-role orientation on trait argumentativeness. Journal of Personality Assessment, 49, 69-70.

Rancer, A. S., & Infante, D. A. (1985). Relations between motivation to argue and the argumentativeness of adversaries. Communication Quarterly, 33, 209-218.

Renwick, P. A. (1977). Effects of sex differences on the perception and management of conflict: An exploratory study. Organizational Behavior and Human Performance, 16, 143-155.

Richmond, V. P., McCroskey, J. C., & Davis, L. M. (1982). Individual differences among employees, management communication style, and employee satisfaction: Replication and extension. Human Communication Research, 8, 170-188.

Rogers, E. M., & Shoemaker, F. F. (1971). Communication of innovations. New York: Free Press.

Roloff, M. E. (1980, May). The impact of socialization on sex differences in conflict resolution. Paper presented at the Annual Convention of the International Communication Association, Acapulco, NM.

Rotter, N. G., & O'Connell, A. N. (1982). The relationships among sex-role orientation, cognitive complexity, and tolerance for ambiguity. Sex Roles, 8, 1209-1220.

Ruben, B. D. (1976, March). Communication, systems, and conflict. Paper presented at the annual convention of the Eastern Communication Association, Philadelphia.

Rubin, L. B. (1983). Intimate strangers. New York: Harper & Row.

Rydell, S. T., & Rosen, E. (1966). Measurement and some correlates of need cognition. Psychological Reports, 19, 139-165.

Shockley-Zalabek, P. S. (1984, May). An examination of current conflict management training practices in ten large American organizations. Paper presented at the annual convention of the International Communication Association, San Francisco.

Siegel, S. (1954). Certain determinants and correlates of authoritarianism. Genetic Psychology Monographs, 49, 187-229.

Steiner, I. D. (1954). Ethnocentrism and tolerance of trait "inconsistency." Journal of Abnormal Social Psychology, 49, 349-354.

Taft, R. (1956). Intolerance of ambiguity and ethnocentrism. Journal of Consulting Psychology, 20, 153-154.

Wall, V. D., & Nolan, L. L. (1987). Small group conflict: A look at equity, satisfaction, and styles of conflict management. Small Group Behavior, 18, 188-211.

Weaver, C. H. (1972). Human listening: Processes and behavior. New York: Bobbs-Merrill Co.

Wilmont, W. (1980). Dyadic Communication (2nd ed.). New York: Random House.

Zammuto, R. F., London, M., & Rowland, K. W. (1979). Effects of sex on commitment and conflict resolution. Journal of Applied Psychology, 64, 227-231.

Table 1
Mean, Standard Deviation, and N of Relevant Variables

		Males	Females
Age	mean	40.74	40.75
	std dev	6.60	7.04
	N	31	64
Length of Time Worked for District (LONGDIS)		15.13	13.81
		7.23	11.42
		31	64
Total Innovativeness Score (TINNOV)		105.03	106.89
		14.90	14.76
		30	61
General Trait Argumentativeness (GTARG)		0.29	-3.38
		13.14	12.33
		31	61
Tendency to Approach Argument (APARG)		30.06	28.58
		6.31	6.88
		31	62
Tendency to Avoid Argument (AVARG)		29.77	32.11
		7.74	7.17
		31	62
Problem Solving Ambiguity Tolerance (PROBSOLV)		32.35	34.06
		6.51	8.04
		31	64
Public Image Ambiguity Tolerance (PUBIMAGE)		17.19	16.05
		3.60	4.27
		31	64
Job Related Ambiguity Tolerance (JOBRELAT)		18.81	16.69*
		4.29	5.22
		31	64
Nonconfrontation Conflict Management Style (NONCON)		51.62	49.60
		10.11	8.77
		29	63
Solution Oriented Conflict Management Style (SOLOR)		34.35	31.64*
		5.31	5.44
		28	59
Control Conflict Management Style (CONTR)		24.97	26.27
		4.03	5.06
		29	64

* T-test $p < .05$

Table 2
Zero Order Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Sex	–												
2. Innovativeness	-.039	–											
3. Argumentativeness	.138	.263*	–										
4. Ambiguity Tolerance	.058	.430***	.432***	–									
5. Nonconfrontation Conflict Mgt	.102	.324**	.653***	.364***	–								
6. Control Conflict Mgt	-.127	.199*	-.067	.221*	-.044	–							
7. Solution Oriented Conflict Mgt	.231*	-.301**	.040	-.002	-.060	.051	–						
8. Sex with Innovativeness	.986***	.038	.118	.078	.137	-.112	.213*	–					
9. Sex with Argumentativeness	.018	-.008	.599***	.252**	.425***	-.002	.120	-.011	–				
10. Sex with Ambiguity Tolerance	.982***	-.020	.194*	.149	.148	-.111	.248*	.979***	.115	–			
11. Sex with Nonconfrontation	.974***	-.018	.201*	.091	.238*	-.115	.224*	.974***	.133	.973***	–		
12. Sex with Control	.982***	-.044	.108	.054	.094	.982***	.216*	.973***	-.026	.970***	.959***	–	
13. Sex with Solution Oriented	.984***	-.089	.151	.070	.111	-.122	.325**	.965***	.048	.972***	.958***	.962***	–

* $p < .05$
** $p < .01$
*** $P < .001$

Table 3
Regression Analysis Results

	R	R^2	R^2	F Change	Beta	T
Sex	.05	.02	.02	.22	-.05	
Predictor Measures	.56	.32	.30	5.98***		
Controlling Conflict Style					.17	1.73
Tolerance for Ambiguity					.32	2.98**
Solution Orientation Conflict Style					-.28	-2.83**
Nonconfrontation Conflict Style					.17	1.32
Argumentativeness					.07	.50
Predictor Measures with Sex	.61	.38	.05	4.86***		
Controlling Conflict Style					-.36	-.63
Solution Orientation Conflict Style					.41	.64
Argumentativeness					-.30	-2.44*

* $p < .05$
** $p < .01$
*** $p < .001$